

Name: \_\_\_\_\_

### p1103: Factoring with box when $a = \text{prime}$ (v6)

#### Example

Use the box to factor  $2x^2 - 9x - 18$ .

Guess and check, based on factor pairs of  $-18$ , until you find the pair that results in a linear coefficient of  $-9$  after combining like terms.

*	x	-6
2x	$2x^2$	$-12x$
3	3x	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER:  $(2x + 3)(x - 6)$

#### Question 1

Use the box to factor  $3x^2 + 17x + 20$ .

*	x	4
3x	$3x^2$	$12x$
5	5x	20

ANSWER:  $(3x + 5)(x + 4)$

### Question 2

Use the box to factor  $5x^2 + 12x - 9$ .

*	x	3
5x	$5x^2$	$15x$
-3	-3x	-9

ANSWER:  $(5x - 3)(x + 3)$

### Question 3

Use the box to factor  $7x^2 - 52x + 21$ .

*	x	-7
7x	$7x^2$	-49x
-3	-3x	21

ANSWER:  $(7x - 3)(x - 7)$